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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,834	05/10/2001	James A. Markevitch	12801-004001	6455
33031	7590	11/30/2004	EXAMINER	
CAMPBELL STEPHENSON ASCOLESE, LLP			PHAN, MAN U	
4807 SPICEWOOD SPRINGS RD.				
BLDG. 4, SUITE 201			ART UNIT	
AUSTIN, TX 78759			PAPER NUMBER	
			2665	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,834

Applicant(s)

MARKEVITCH ET AL.

Examiner

Man Phan

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 7-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The application of Markevitch et al. for a "Method of encoding a data packet" filed 05/10/2001 has been examined. Claims 1-12 are pending in the application.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 1038 and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 4-6 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau et al. (US#6,356,561) in view of Yonge, III et al. (US#6,671,284).

With respect to claims 1, 4-6 and 10-12, Lau et al. (US#6,356,561) and Yonge, III et al. (US#6,671,284) disclose a novel system and method for efficiently encoding data packet with a lower overhead, according to the essential features of the claims. Lau et al. (US#6,356,561) discloses in Fig. 1 a block diagrams illustrated the novel method and apparatus for the transfer of variable lengthy packets using fixed length segments but programmable length. Lau's system uses a UOPIA interface which is modified to add 3 additional signals: start of packet (SOP), end of packet (EOP), and most significant byte (MSB). The start of a segment is marked by a pulse on the UTOPIA start of cell (SOC) signal line. The start of a packet is marked by a pulse on the SOP signal line. The end of a packet is marked by a pulse on the EOP signal line. According to a preferred embodiment, bytes are transferred via a 16-bit bus. When a packet ends with a single byte on the bus, the MSB signal line is asserted to distinguish it from a packet which ends with two bytes on the bus. The invention can be expanded to accommodate buses wider than 16-bits by making the EOP a multiple bit signal. The extra signals added to the standard UTOPIA interface by the invention are not involved in segment transfer. Segments are transferred in the same manner that ATM cells are transferred using standard UTOPIA technology. Rather, the extra signals are used by a PHY device to reconstruct packets which were transferred over the interface (Col. 3, lines 1 plus and Col. 6, lines 20 plus).

Lau et al. (US#6,356,561) differs from claims in that Lau et al. does not expressly disclose when the data chunk is not the EOP, prepending the data chunk with a control

character representing the length of the data chunk and non-EOP prior insertion of the data chunk into a current frame. In the same field of endeavor, Yone, III et al. (US#6,671,284) discloses in Fig. 3 the format of an OFDM frame, in which the frame 80 further includes one or two delimiters 90, referred to more generally as delimiter information. The delimiter information 90 includes a delimiter that precedes the payload 82, that is, a start (or SOF) delimiter 92. Preferably, in addition to the start delimiter 92, the delimiter information 90 includes a delimiter that follows the payload 82, i.e., an end (or EOF) delimiter 94. The start delimiter 92 includes a first preamble 96 and a first frame control field 98. The end delimiter 94 includes a second preamble 100, as well as a second frame control field 102. The preambles 96, 100 are multi-symbol fields used to perform or enable automatic gain control, time and frequency based synchronization and physical carrier sensing. The preambles 96, 100 may be the same length or different lengths. An EFG 104 separates the end delimiter 94 and the payload 82. The inclusion of the EFG 104 in the frame 80 is optional. The header 84 includes a Segment Control field 106, a Destination Address (DA) 108 and a Source Address (SA) 110. The SA and DA fields (6 bytes each) are the same as the corresponding fields described in the IEEE Std. 802.3. Each address is in an IEEE 48-bit MAC address format (Col. 3, lines 20 plus and Col. 9, lines 48 plus).

One skilled in the art would have recognized the need for effectively and efficiently encoding data packet with a lower overhead, and would have applied Yong, III's teaching in the format of frame control into Lau's novel use of the encoding techniques. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Yong, III's frame control for efficient media access into Lau's method

and apparatus for the fair and efficient transfer of variable length packets using fixed lengthy segments with the motivation being to provide a method and apparatus forencoding a data packet for encapsulation in one or more frames in communications.

Allowable Subject Matter

5. Claims 2-3 and 7-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter: The closest prior art of record fails to disclose or suggest wherein when the data chunk is the EOP, determining if there is an error in communication of the plurality of data chunks; and when there is not an error in communication of the plurality of data chunks, prepending the data chunk with a control character representing the length of the data chunk and EOP, as specifically recited claim 2. The closest prior art of record fails to disclose or suggest wherein when there is a mode change, determining if the number of bytes remaining in the current frame is less than a second predetermined number, and the number of bytes remaining in the current frame is not less than the second predetermined number, inserting a control character representing the mode change in the current frame, as specifically recited claim 7.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Divivier et al. (US#6,618,382) is cited to show the auto early packet discard (EPD) mechanism for automatically enabling EPD on an ATM network.

The Janoska et al. (US#2003/0072329) is cited to show the segmentation of data transmission units into fixed size segments.

The Walker et al. (US#6,718,491) is cited to show the coding method and coder for coding packetized serial data with low overhead.

The Widmer (US#5,784,387) is cited to show the method for detecting start of frame, end of frame, and idle words in a data stream.

The Hluchyl et al. (US#5,115,429) is cited to show dynamic rate control minimizes traffic congestion in a packet network.

The Sriam et al. (US#6,169,738) is cited to show the method for call admission in packet voice system using statistical multiplexing and dynamic encoding.

The Frink et al. (US#2003/0133448) is cited to show the packet protocol for encoding and decoding video data and data flow signals and devices for implementing the packet protocol.

The Zimmermann et al. (US#6,704,310) is cited to show the header encoding method and apparatus for packet based bus.

The Yanagihara et al. (US#6,697,432) is cited to show the processing of packets in MPEG encoded transport stream using additional data attached to each packet.

The Wolfgang (US#6,609,223) is cited to show the method for packet level FEC encoding, in which on a source packet by source packet basis, the error correction contributions of a source packet to a plurality of wildcard packets are computed, and the source packet id transmitted thereafter.

The Hassner et al. (US#6,344,807) is cited to show the packet frame generator for creating an encoded packet frame and method thereof..

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149.

The examiner can normally be reached on Mon - Fri from 6:00 to 3:00 EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

8. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

Art Unit: 2665

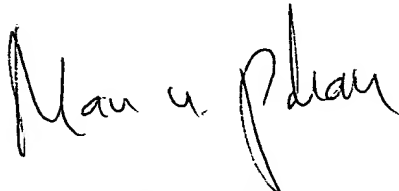
Or: (703) 305-3988 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive,
Arlington. VA., Sixth Floor (Receptionist).

Mphan

11/20/2004.

A handwritten signature in cursive script that reads "Man U. Phan".

MAN U. PHAN
PRIMARY EXAMINER